



MARSHALL STAR

Serving the Marshall Space Flight Center Community

Oct. 21, 2010

Lightfoot discusses new direction for agency, Marshall

By Amie Cotton

Marshall Space Flight Center Director Robert Lightfoot held an all-hands meeting with team members Oct. 18 to discuss NASA's fiscal year 2011 strategic goals and areas of focus as well as the NASA Authorization bill and what it means for the center.

Lightfoot said the NASA senior management team held a retreat last week, where agency leadership discussed the following draft strategic goals for the agency:

Goal 1: Extend and sustain human activities across the solar system.

Goal 2: Expand scientific understanding of the Earth and the universe in which we live.

Goal 3: Create innovative new space technologies for our exploration, science and economic future.

Goal 4: Advance aeronautics research for



Marshall Center Director Robert Lightfoot addresses the work force at an all hands meeting Oct. 18.

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Space shuttle Discovery to launch on final mission in November

From combined sources

Space shuttle Discovery stands on launch pad 39A at NASA's Kennedy Space Center, Fla., attached to its solid rocket boosters and external fuel tank.

It is just days away from lifting off on its last flight – an 11-day trip to the International Space Station.

Discovery's targeted launch is Nov. 1, and is slated to return Nov. 12. Upon completion of the mission, designated STS-133, Discovery will become the first orbiter to be retired from NASA's fleet.

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Marshall team to rally for CFC Oct. 21

Door prizes announced, bus schedule set – as donations start rolling in

By Rick Smith

As Marshall Space Flight Center team members prepare to rally Oct. 21 in support of the 2010 Combined Federal



Campaign, donations are coming in – and rally organizers are upping the excitement with a raft of door prizes sure to send winners away happy.

The rally is set for 1-3 p.m. in Activities Building

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Seeing through the smoke: Marshall 'SPoRT' team aids weather forecasting

By Kim Newton

Late January 2010. Powerful storms blow into Huntsville. Forecasters at the National Weather Service move to monitor nearly 20 storms developing over the land that stretches from northern Alabama to southern Tennessee. Data floods their computer screens – radar, satellite, ground observations, balloon observations. As the storm worsens, NASA scientists Dr. Geoffrey Stano and Dr. Kevin Fuell rush to join their fellow meteorologists.

They don't need to walk far. Stano and Fuell are part of NASA's Short-term Prediction and Research Transition team, or SPoRT. They use SPoRT to significantly enhance meteorologists' short-term weather forecasts. The SPoRT office at the Marshall Space Flight Center is just a few steps away from a National Weather Service office in the same building.

Stano and Fuell come through the Weather Service's door and go to the bustling room packed with forecasters. Most are flipping between computer screens, examining data as quickly as they can. They monitor the big screen TVs in the background to make sure local stations are getting the severe storm warnings out to a public who need the information. Decisions are made in seconds. Is that area in danger? Do we issue a warning? The environment can be tense, and the NASA meteorologists watch the situation closely, hoping to learn how to improve a weather forecasting system they've worked on.

Rewind nine years. NASA engineers and climatologists prepare to launch a series of satellites designed to study Earth's climate. Engineers designed the satellites to study long-term variations of humidity, temperature, precipitation, cloud cover as well as a host of other climate characteristics.

Dr. Gary Jedlovec, a 25-year veteran of NASA, partnered with two of his NASA colleagues to propose a novel idea to improve short-term weather forecasts. When Jedlovec was a kid, his 4th grade science teacher, Mr. Kabinski, had helped him build a barometer. The tool fascinated him. That Christmas, he begged his parents for weather tools, and was elated to receive an anemometer, a wind vane and an outdoor thermometer. He was hooked.

The group of three NASA weather and climate researchers each had a different

specialty: one was an expert in electricity and thunderstorms, one in models and forecasting and one, Jedlovec, worked on how to use satellite data to predict the weather. If these satellites could study the long-term climate, they could also help predict the kinds of short-term changes weather forecasters have come to rely on.

Jedlovec knew the SPoRT project had big potential. Most forecasters have access to just a limited amount of traditional, coarse-resolution data. With SPoRT, they could have access to additional, unique, high-resolution observations of weather features available nowhere else. And with such high-resolution satellite data available, there was immense potential to improve forecasters' predictions. They proposed the project and NASA gave them the green light. They got to work right away, but a series of challenges quickly surfaced.

Forecasters needed access to the data, and they needed it fast. If they could use the data from cutting-edge NASA satellites, it would tremendously improve their ability to predict the weather. But when a thunderstorm rolls through, time is short. Forecasters watch their radars, trying to craft forecasts and making split-second decisions that affect thousands of people. The team faced the challenge of getting data from NASA satellites, processing it and piping it to meteorologists already overwhelmed with information.

Jedlovec knew he'd have to make the data available immediately after the satellites collected it. He and his colleagues directed the SPoRT team to work with the National Weather Service offices in Birmingham and Huntsville to figure out how they could get the information to the meteorologists.

Slowly, a paradigm developed. If SPoRT could make NASA data available in just one or two clicks, the forecasters could access it in just seconds. The team worked to develop training

See SPoRT on page 6



Dr. Gary Jedlovec, a satellite meteorologist and SPoRT principal investigator at the Marshall Center, speaks to colleagues about how SPoRT helps weather forecasters deliver short-term predictions more quickly and accurately.

'Forget normal – be exceptional'

Marshall's Jim Duffy tackles engineering challenges, life with equal zeal

By Rick Smith

Chances are, Jim Duffy has a hand in what you're doing today.

Since joining NASA in May, the 40-year-old Marshall Space Flight Center engineer has tackled a cavalcade of structural and mechanical design activities for the Engineering Directorate, touching on a whole spectrum of Marshall work. He's the lead for the component development team tasked with designing the Upper Stage Instrument Unit for the Ares I launch vehicle. He supports the team delivering spares and sustaining hardware for the International Space Station's recycling and life support systems. He's developing a sounding rocket payload model for science test flight. He also lends his services to the European Space Agency's Extreme Universe Space Observatory – a telescope headed to the space station in 2013 to study cosmic rays.

In his spare time, he's also studying. A lot. Learning the latest computer-aided design software, boning up on 3D modeling techniques or participating in lessons-learned sessions to improve engineering best practices – Duffy says professional growth is the ticket to success.

"Always stay current, always keep learning," he says. "Education is the means to achieve a fruitful life."

He learned that lesson in rehabilitation, he says. After he almost died.

The right tools for the job

A native of Akron, Ohio, Duffy was a sophomore at Ohio State University in 1990 when a motorcycle accident left him a quadriplegic, with limited use of his arms. He spent seven



Marshall Center engineer Jim Duffy

months in rehabilitation, then moved to an independent living facility near campus called Creative Living. He learned to use computer software to complete class work, scheduled a team of test scribes and support personnel, and rededicated himself to his studies – eventually becoming a teaching assistant in various undergraduate engineering classes.

By the time he graduated in 1996 with a bachelor's degree in mechanical engineering, Duffy had acquired practical experience other freshouts might need years in the work force to master. He went to work as a mechanical designer for Texas Instruments of Dallas – and in addition to his regular duties began developing classes for the company, once more teaching others what he knew.

"Teaching was a great stepping stone," he recalls. "It helped me stay current, follow trends and hone my skills. What I may have lacked in basic design experience, I made up for by knowing the tools."

A chance to apply that knowledge in new ways led Duffy

See Duffy on page 6

Disability Employment Awareness Month

Marshall to host sight impairment Lunch & Learn Oct. 28

The Marshall Center will host a Lunch & Learn Oct. 28 with Marshall physicist Dr. Craig Moore, concluding its celebration of Disability Employment Awareness Month.

Moore, a researcher in the Engineering Directorate's Flight Mechanics & Analysis Division, will speak about sight impairment and blindness. He was born with limited

vision and went blind at the age of 7.

Complete event details will be available in Inside Marshall in coming days. All Marshall team members are invited to bring a lunch and attend.

Marshall to host Breast Cancer Awareness speakers Oct. 27

The Marshall Space Flight Center will host a program Oct. 27 to mark National Breast Cancer Awareness Month.

The event, to be held from 1-3 p.m. in Building 4663, Room A164, will include speakers Dr. Heather Shah, a breast cancer specialist at Clearview Cancer Institute in

Huntsville; Michelle Nesin, co-owner and chief operations officer of Nesin Therapy Services in Huntsville; and physical therapist and breast cancer survivor Bridget Dietz.

Shah will speak about the latest medical news about breast cancer. Nesin and Dietz will discuss the benefits of physical therapy for breast cancer patients and survivors.

For more information, call Inge Kuberg at 544-5678 or Patty Montgomery at 544-2433.



Lightfoot *Continued from page 1*

societal benefit.

Goal 5: Enable program and institutional capabilities to conduct NASA's aeronautics and space activities.

Goal 6: Share NASA with the public, educators and students to provide opportunities to participate in our mission, foster innovation and contribute to a strong national economy.

In addition, NASA Administrator Charles Bolden set the following agency focus goals:

- Safely fly out the space shuttle.
- Assure a cohesive senior leadership team is in place to implement priorities for the agency; ensure that the work force stays engaged and motivated; improve NASA's position as the 5th best place to work in government.
- Ensure an energized, innovative program of technology development and scientific and aeronautics research to support exploration beyond low-Earth orbit and make life better on Earth.
- Facilitate the success of a viable commercial space industry to provide assured U.S. access to low-earth orbit for cargo and crew and acquire, mature and infuse commercial capabilities across all NASA activities.
- Promote enhanced cooperation with international, industry, other U.S. government agency and academic partners in the pursuit of our missions.

Authorization bill and Marshall direction

Lightfoot said the authorization bill signed by the president Oct. 11 provides a framework for the appropriations bill. It offers clarity for NASA to begin moving forward in a new direction.

The authorization bill proposes \$19 billion for NASA in fiscal year 2011 and \$58 billion to NASA over the next three years. It directs NASA to develop a 70- to 100-metric-ton Space Launch System, operational by 2016.

"Bolden said at the retreat he was looking to Marshall and the Exploration Systems Mission Directorate to bring a plan forward for heavy lift," Lightfoot said. "The Human Exploration Framework Team, or HEFT, led by Dan Dumbacher, has been planning heavy lift propulsion technologies, capabilities and infrastructure since early 2010."

In addition, Marshall has led the Heavy Lift Launch Vehicle, or HLLV, cross-agency data team to study heavy-lift alternatives and provide performance, cost, safety/reliability, schedule, mission capture and operability data to support an architecture decision.

Lightfoot added that once Congress appropriates funding, Marshall will start transitioning to new work. He noted that Teresa Vanhooser, manager of Ares Projects at Marshall, has been working closely with the HEFT team and Garry Lyles and Todd May from Marshall's Heavy Lift Vehicle activity to align activities as much as possible.

HLLV planning continues, Lightfoot said, developing figures of merit to characterize performance of the Space Launch System, developing acquisition strategies and determining a path to a system requirements review. The heavy lift team also is providing input to HEFT during Phase 2 of its study, which will provide NASA leaders with decision packages that integrate options, decision priorities and architecture implications of potential decisions.

Shuttle, station work continues

The authorization bill also directs NASA to maintain the space shuttle through 2011 and fly a third shuttle mission in fiscal year 2011, no sooner than June 28, 2011.

Lightfoot noted 2011 will be a bittersweet year with the close out of the Space Shuttle Program and the Constellation Program, but said Marshall is ready to take advantage of its skills and move forward.

He added the bill also directs extending the International Space Station to at least 2020, and authorizes new missions for the study and development of robotic precursor missions as well as technology demonstrations – both of which are expected to be assigned to Marshall.

The video and a transcript of the all-hands meeting are available on Inside Marshall at <https://conversation.msfc.nasa.gov/>.

Cotton, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Discovery *Continued from page 1*

Discovery, known inside the agency by its designation Orbiter Vehicle-103 or OV-103, was NASA's third space shuttle orbiter to join the fleet at Kennedy. It is now the oldest orbiter in service.

Construction of Discovery by The Boeing Company of Chicago began Aug. 27, 1979, and was completed four years later. The vehicle rolled out of the assembly plant in Palmdale, Calif., in October 1983, and flew its maiden voyage Aug. 30, 1984, on STS-41-D.

The orbiter was named after two historic, Earthbound exploring ships of the past. One was a vessel used by Henry Hudson in the early 1600s to explore the Hudson Bay and search for a northwest passage from the Atlantic to the Pacific. The other was one of two ships used by the British explorer James Cook in the 1770s. Cook's voyages in the South Pacific led to the discovery of the Hawaiian Islands. Another of his ships was the Endeavour, the namesake of NASA's newest shuttle.

For more information about Discovery's upcoming mission, visit http://www.nasa.gov/mission_pages/shuttle/main/index.html.



Space shuttle Discovery being readied for launch at Kennedy

Key Discovery missions

- 1984: STS-41D – Maiden flight
- 1988: STS-26 – Return to Flight after Challenger accident
- 1990: STS-31 – Launch of Hubble Space Telescope
- 1994: STS-60 – First flight of a Russian cosmonaut on a shuttle
- 1995: STS-63 – First rendezvous with Russian Mir space station; first female pilot
- 1995: STS-70 – First on-orbit shift in new Mission Control Center at the Johnson Space Center, Houston
- 1997: STS-82 – Highest altitude known for a shuttle flight
- 1998: STS-91 – Final shuttle-Mir docking
- 1998: STS-95 – Flight to return John Glenn to orbit as oldest human to fly in space
- 2000: STS-92 – Installation of the International Space Station's Z1 Integrated Truss Structure and PMA-3
- 2001: STS-102 – First space station crew rotation

- 2005: STS-114 – First Return to Flight mission after Columbia accident
- 2006: STS-116 – P5 Truss installed on space station
- 2008: STS-124 – Delivery of Japan's Kibo Laboratory to space station
- 2009: STS-119 – Completed space station Integrated Truss Segment
- 2009: STS-128 – Final use of the shuttle for full space station crew rotation

The numbers (Prior to STS-133)

- Total miles traveled: 142,917,535
- Total days in orbit: 351 (8,441 hours, 50 minutes, 41 seconds)
- Total orbits: 5,628
- Total flights: 38 (more than any other shuttle)
- Total crew members to fly on Discovery: 246
- Mir dockings: 1
- International Space Station dockings: 12

modules to use the unique NASA data. They constantly consulted with local meteorologists to determine the kinds of forecasting challenges they experienced in their regions. By tailoring SPoRT to fit the needs of individual offices and by integrating the NASA data seamlessly with their current figures, forecasters quickly learned that SPoRT greatly expanded their capabilities.

As the years passed, SPoRT has grown into an impressive operation. The team has expanded the SPoRT capabilities from just Birmingham and Huntsville to 15 National Weather Service offices, one in Montana and the rest throughout the Southeastern United States. They're currently looking at how to bring the unique capabilities of SPoRT to places as diverse as Alaska and Hawaii.

To Jedlovec, it's no surprise. He's on the cutting edge of meteorology, and he loves every second of it. When he meets with local forecasters they often greet him with excitement. Farmers need to know when it will freeze to protect

their crops, and when it will rain so they don't waste money on unnecessary irrigation. Pilots need to know where the most dangerous winds and thunderstorms are so they can avoid them. Ordinary people need to know when it might flood. The team even has the ability to help fight wildfires by seeing through the smoke to identify hotspots on the ground. There's little doubt among NASA researchers that the SPoRT team is saving hundreds of lives and hundreds of thousands of dollars each year.

When Jedlovec first envisioned SPoRT, he didn't want to make it useful to just one part of the country. What makes SPoRT so widely practical is that it's not making predictions, but instead is helping weather forecasters do the forecasting. The SPoRT paradigm developed over the last nine years is to identify the local needs of the office, and work with the office staff to finish to tackle the area's unique challenges. The challenges of coastal Alabama are different than those of more hilly

regions – and both are very different from the cold conditions of Montana. The team has worked to keep SPoRT dynamic enough to help offices across the country.

Jedlovec and the team are optimistically pushing forward. They've divided the United States into six regions, plus Alaska and Hawaii, and brought representatives from each of those regions to Huntsville to show them SPoRT's capabilities. Of course, the SPoRT team is too small to train and work with all 122 National Weather Service offices across the United States, but that hasn't stopped them from strategizing on how to get their weather products distributed.

For now, Jedlovec and the rest of the team are focusing on helping weather forecasters get out their predictions. They're just ordinary people helping ordinary people, and at the end of the day, that's what it's all about.

Newton is a public affairs officer in the Office of Strategic Analysis & Communications.

Duffy

Continued from page 3

and his wife Bobbie – whom he'd met at Ohio State after his accident and married in 1997 – to relocate first to Lorain, Ohio, where Duffy served from 2000-2007 as lead design engineer for a top telecommunications company, and then to Huntsville. He joined Triumph Aerospace Systems in 2008 as a systems engineer, supporting development of the Ares instrument unit at the Marshall Center. Two years later, having completed his master's degree in industrial and manufacturing systems engineering via distance-learning classes at Ohio University in Athens, he accepted a civil service appointment at Marshall.

Abilities, not disabilities

Now he spends much of his days poring over CAD drawings, the walls of his office papered with drawings of another sort: signed artwork by his three children. Other than the elevated workstation accommodating his wheelchair – and the massive Ohio State Buckeye wall art, brazenly proud in a land of Tide and Tigers – it looks like the office of any other Marshall Center engineer.

Duffy says getting here "is the cap on my career," but that hardly seems possible as he launches enthusiastically into

a tally of upcoming goals. He wants to get his doctorate, but most importantly, he wants to share his story. In his spare time, he's shopping an original magazine article called "Forget Normal – Be Exceptional." He has also spoken at several schools back home in Ohio, and is mulling the idea of writing an autobiography, intended to inspire people with disabilities who may be daunted at the idea of going to college.

What advice would he give them? Concentrate on abilities, not disabilities. "Work around your limitations," he says, gesturing to his busy workstation, with its subtle alterations. "And don't be afraid to seek out accommodations necessary to do your best work. That's what drew me to NASA."

He smiles. "I always followed the space program as a kid, but it never occurred to me that I'd end up working here, with the good people in ES21 and the Engineering Directorate. It turned out to be the greatest thing that ever happened to me."

So far, anyway.

Smith, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

4316. All Marshall team members are encouraged to attend the event, a cornerstone in the annual goodwill drive to support charitable organizations at the local, state and national level.

The Marshall Center's goal is to raise \$675,000 by the campaign's end Dec. 10 – and "we're off to a good start," said David Percival, CFC executive vice chairperson for finance and reports. As of Oct. 15, donations reached \$88,440.

"Last year was our best year ever for CFC giving," said Percival, financial program specialist in the Office of the Chief Financial Officer. "We raised more than \$710,000 with nearly 60 percent participation. It's exhilarating to imagine all the good we can do if we can boost participation even higher."

Percival and his fellow organizers hope this year's rally will do just that. They moved the event from Morris

Auditorium to the Activities Building to make room for a larger audience, tapped a variety of performers to help energize the crowd, including the Alabama A&M University cheerleaders and the Grissom Marching Band – and there are those door prizes.

Among the 35 prizes are a Sony Dash Internet viewer; a Barnes & Noble "Nook" book reader; an iPod Shuffle, courtesy of Mac Resources; two tickets to a 2010-11 traveling Broadway show at the Von Braun Center, courtesy of Huntsville's Broadway Theater League; and gift certificates to a number of local restaurants. Winners must be present to qualify.

Bus routes

On-center buses for the rally will run continuously Oct. 21 from noon to 1:15 p.m. The first bus will loop between buildings 4200, 4203, 4205, 4755,

4708 and 4707. The second will make stops at buildings 4666, 4663, 4487, 4600 and 4612. Both will return to the same stops beginning at 2:30 p.m.

At noon, a third bus will pick up rally participants at the National Space Science & Technology Center on Sparkman Drive and Intergraph Building 700 in Madison Business Park South. All participants will be returned to those sites by van at 2:30 p.m.

The Marshall taxi service also is available for employees who are not on a bus route. A handicapped-accessible van with chair lift also is available as needed. Call 544-8294 (4-TAXI).

For a complete bus schedule and other rally details, visit Inside Marshall at http://inside.msfc.nasa.gov/announcements/cfc_info.html.

Smith, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Marshall Star Ad Form." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue, Oct. 28, is 4:30 p.m. Thursday, Oct. 21.

Miscellaneous

AKC English Bulldogs, all shots to date, vet checked, male, female, \$1,200 each. 256-423-6916

Wooden computer desk, 53x28x53, includes hutch, shelves, drawers, keyboard tray, \$40 obo. 313-655-7966

Art Deco Waterfall cedar chest, \$100. 256-882-3895

Wooden baby crib, converts to toddler bed, \$150. 256-551-0276

Panasonic TV (not flat screen), 32", remote, \$100. 256-684-2256

Coldspot-Seeger refrigerator, vintage early 1950's, \$300; paintball auto loader, \$10; paintball full mask, \$10. 256-527-0110

Pool table, cherry, green felt, two years old, \$1,300. 256-772-2061.

Ultimate Game Chair, speakers in headrest, vibrates during gameplay and for massages, asking \$150. 256-658-5210

Playstation 3 game, Little Big Planet, Game of the Year edition, rated E, \$25. 256-828-1234

Two iPhones, 3rd Generation, accessories, AT&T activation required, \$200 each, \$375 for both. 256-468-8136

Two complete computers, monitors, need minor work, \$150. 256-541-1043

E46 BMW M3 OEM competition wheels, \$1,250.00. 256-922-1424

6HP Billy Goat walk-behind yard leaf vacuum, three years old, \$400. 256-883-8340

Two Alabama-Georgia State football game tickets, Section N4, Row 43. 256-830-6584

Two Alabama - Georgia State football game tickets, \$45 each. 256-895-9520

Two Broadway Theater League "9 to 5" tickets, October 23, Row J, seats 4&5. 256-503-7060

Two person crypt, Chapel of Love Mausoleum at Valhalla Funeral Home, \$6,000. 256-535-9537

Ladies clothes, size 6, professional, casual, designer. 256-683-3398

Commercial Montego Bay tanning bed, 24E-canopy, 230V. 256-609-7259

Vehicles

2009 Yamaha Grizzly 550 4x4, winch, 240 miles, \$6,000 obo. 256-457-6831

2007 DRZ400S, new Dunlop D606 tires, less than 3,200 miles, \$3,400 obo. 256-650-4654

1997 Honda C-RV, green, 253k miles, \$3,000; 1989 Chevy Silverado, 142k miles, \$1,000. 256-417-0305

1995 Toyota T100, LWB, manual transmission, 205k miles, \$1,200. 256-653-2971, leave message

1990 Honda Civic, four speed, 132k miles, \$2,700 obo. 256-536-5988-or 256-316-2707

Lowe 20ft pontoon boat, trailer, Johnson 50 hp motor. 256-586-5207

Glastron 16ft tri-hull boat, 85hp Evinrude OB, \$1,200. 256-651-5847

Fishing boat/trailer, 80hp Mariner, trolling motor, depth finder, \$3,200 obo. 256-651-3655

Wanted

Students interested in obtaining beginner to advanced SCUBA diver certification. 256-651-9909

Houses/offices to clean, available evenings and weekends. 256-777-8595, leave message

Twin beds, adult writing desk, prefer antique or replica desk. 256-880-9025

Strength, faith and NASA support for Chilean miners



David Higginbotham/MSFC

Robert Garcia, NASA's Propulsion Technical Fellow at the Marshall Space Flight Center, talks with Huntsville-area news media about the work his team did to help Chilean rescuers finalize the design of a container used Oct. 13-14 to free 33 mine workers trapped underground for 10 weeks. Garcia is part of the NASA Engineering Safety Center team, an agency-wide task force that provides real-time response to government, industry and private organizations worldwide. The team reviewed the Chilean engineers' design of the capsule, and offered recommendations to safeguard the occupants during their long trip to the surface. Garcia credited the team for a job well done – and also the miners themselves, who endured the early days of their imprisonment with no contact whatsoever with the world above. "Their strength and faith, whatever it was that got them through those first 17 days, shouldn't get lost in all of this," he said.

Nominations sought for Marshall's NASA Exchange Council

Nominations are being accepted from civil service employees for an election to fill two positions on the Marshall Space Flight Center's NASA Exchange Council. Council members are an important part of shaping the health, morale and welfare direction of the Exchange.

Nominations must be accompanied by a petition signed by 20 or more civil service employees. There is no requirement that nominees

and petitioners be from the same organization. Petitions must have the signature of the nominee with a statement indicating a willingness to serve the two-year term, if elected. Petitioners need to provide their Marshall badge number.

Each candidate must have served as a civil service employee for no less than one year. No employee may serve concurrently as a member of the council

and as an officer of any Exchange-sponsored club or activity.

Deadline for submitting nominations is close of business Nov. 12. Petitions should be mailed to: Exchange Council Election, HS01X, Building 4315.

A list of nominees and voting instructions will be printed in an upcoming issue of the Marshall Star. For questions, contact Bill Mayo, NASA Exchange manager, at 544-7564.

MARSHALL STAR

Vol. 51/No. 7

Marshall Space Flight Center, Alabama 35812
256-544-0030
<http://www.nasa.gov/centers/marshall>

The Marshall Star is published every Thursday by the Public and Employee Communications Office at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration. Classified ads must be submitted no later than 4:30 p.m. Thursday to the Marshall Public and Employee Communications Office (CS20), Bldg. 4200, Room 102. Submissions should be written legibly and include the originator's name. Send e-mail submissions to: MSFC-INTERCOM@mail.nasa.gov. The Star does not publish commercial advertising of any kind.

Manager of Public and Employee Communications: Dom Amatore
Editor: Jessica Wallace Eagan

U.S. Government Printing Office 2011-723-031-00071

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